

ABSTRACT OF THE DISCLOSURE

A technique for routing data within an optical network having a plurality of network nodes is disclosed.

In one embodiment, the technique is realized by
5 receiving data at a first network node via a first
optical signal having a first wavelength. The first
wavelength corresponds to a first optical frequency, and
the first optical frequency is mapped to a first binary
representation. The first binary representation is
10 divided into a first plurality of fields, wherein at
least one of the first plurality of fields corresponds to
a routing label in a first label stack. A top routing
label in the first label stack indicates a second network
node. Based at least partially upon the top routing
15 label, the data is transmitted from the first network
node to the second network node via a second optical
signal having a second wavelength. The first wavelength
may be either the same as or different from the second
wavelength.